

ipd4300mdlltipTES-10

**Defense Information Infrastructure (DII)
Common Operating Environment (COE)**

**Installation Procedures (IP)
for the
Latitude-Longitude-Time (LLT) Observation Database Segment
(MDLLT)
of the
Tactical Environmental Support System Next Century
[TESS(NC)]
Meteorology and Oceanography (METOC) Database**

Preliminary Release

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1 SCOPE

1.1 Identification

These Installation Procedures (IP) describe the installation of the Latitude–Longitude–Time (LLT) Observation Database (MDLLT) segment, Version 4.3 series, of the Tactical Environmental Support System Next Century [TESS(NC)] Meteorology and Oceanography (METOC) Database. The MDLLT is a Defense Information Infrastructure (DII) Common Operating Environment (COE) *shared database* segment for the storage of METOC point observations. This software is designed to run under DII COE, release 3.1, on a Hewlett-Packard computer running HP-UX 10.20.

1.2 System Overview

The software described in this document forms a portion of the METOC Database component of the TESS(NC) Program (Navy Integrated Tactical Environmental Subsystem (NITES) Version I). On 29 October 1996, the Oceanographer of the Navy issued a TESS Program Policy statement in letter 3140 Serial 961/6U570953, modifying the Program by calling for five seamless software versions that are DII COE compliant, preferably to level 5.

The five versions are:

- NITES Version I The local data fusion center and principal METOC analysis and forecast system (TESS(NC))
- NITES Version II The subsystem on the Joint Maritime Command Information System (JMCIS) or Global Command and Control System (GCCS) (NITES/Joint METOC Segment (JMS))
- NITES Version III The unclassified aviation forecast, briefing, and display subsystem tailored to Naval METOC shore activities (currently satisfied by the Meteorological Integrated Data Display System (MIDDS))
- NITES Version IV The Portable subsystem composed of independent PCs/workstations and modules for forecaster, satellite, communications, and Integrated Command, Control, Communications, Computer, and Intelligence Surveillance Reconnaissance (IC4ISR) functions (currently the Interim Mobile Oceanographic Support System (IMOSS))
- NITES Version V Foreign Military Sales (currently satisfied by the Allied Environmental Support System (AESS))

NITES I acquires and assimilates various METOC data for use by US Navy and Marine Corps weather forecasters and tactical planners. NITES I provides these users with METOC data, products, and applications necessary to support the warfighter in tactical operations and decision making. NITES I provides METOC data and products to NITES I and II applications, as well as non-TESS(NC) systems requiring METOC data, in a heterogeneous, networked computing environment.

The TESS(NC) Concept of Operations and system architecture require that the METOC Database be distributed both in terms of application access to METOC data and products and in terms of physical location of the data repositories. The organizational structure of the database is influenced by these requirements, and the components of this distributed database are described below.

In accordance with DII COE database concepts, the METOC Database is composed of six DII COE-compliant *shared database* segments. Associated with each shared database segment is an Application Program Interface (API) segment. The segments are arranged by data type as follows:

<u>Data Type</u>	<u>Data Segment</u>	<u>API Segment</u>
Grid Fields	MDGRID	MAGRID
LLT Observations	MDLLT	MALLT
Textual Observations and Bulletins	MDTXT	MATXT
Remotely Sensed Data	MDREM	MAREM
Imagery	MDIMG	MAIMG
Climatology Data	MDCLIM	MACLIM

A typical client-server installation is depicted in Figure 1-1 on the next page. This shows the shared database segments residing on a DII COE database server, with a NITES I or II client machine hosting the API segments. Communication between API segments and shared database segments is accomplished over the network using ANSI-standard Structured Query Language (SQL).

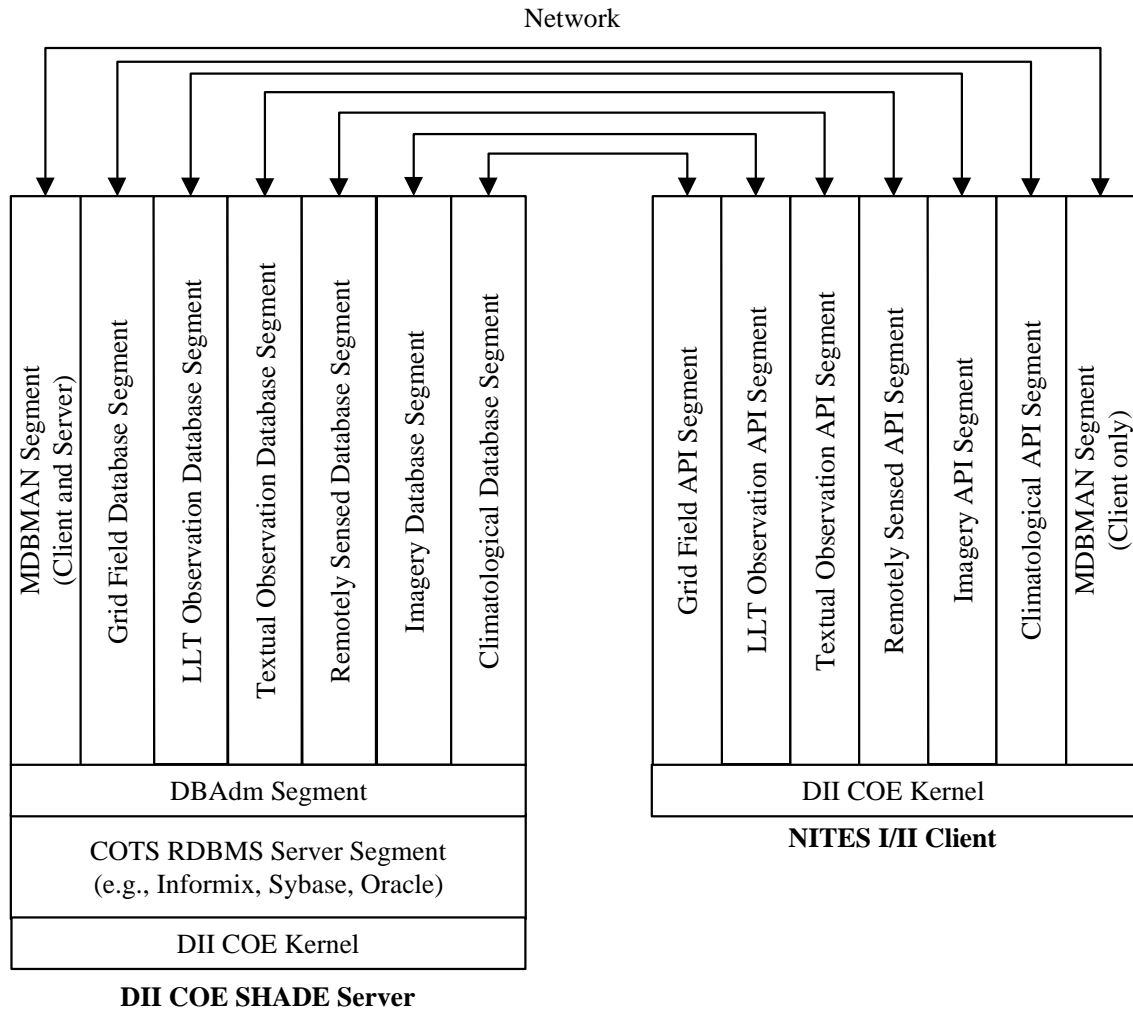


Figure 1-1. TESS/NC METOC Database Conceptual Organization

The MDLLT segment deals with point observations. These include surface weather observations (hourlies, specials, synoptic observations, METAR reports, Terminal Aerodrome Forecasts (TAFs), etc.), upper air observations (e.g., radiosonde reports, aircraft observations), and ocean soundings (bathythermograph, sound velocity profiles, etc.). For upper air and ocean soundings, the database may also store data derived from the original soundings in the form of upper air profiles and ocean profiles.

ipd4200malltpmTES-10 9 October 1998	<i>Programming Manual (PM) for the Latitude-Longitude-Time Observation API (MALLT) Segment of the Tactical Environmental Support System Next Century [TESS(NC)] Meteorology and Oceanography (METOC) Database</i>
ipd4300mdlltsvdTES-10 9 October 1998	<i>Software Version Description (SVD) for the Latitude-Longitude-Time Observation Database (MDLLT) Segment of the Tactical Environmental Support System Next Century [TESS(NC)] Meteorology and Oceanography (METOC) Database</i>
DII.COE31.HP10.20.CIP 23 May 1997	<i>DII COE V3.1 HP 10.20 Consolidated Installation Procedures</i>
DII.3010.HP1020.KernelP1.IG-1 9 May 1997	<i>DII COE Kernel 3.0.1.0P1 Patch 1 for HP-UX 10.20 Installation Guide</i>
DII.3010.HP1020.KernelP2.IG-1 30 July 1997	<i>DII COE Kernel 3.0.1.0P2 Patch 2 for HP-UX 10.20 Installation Guide</i>
DII.3010.HP1020.KernelP3.IG-1 08 August 1997	<i>DII COE Kernel 3.0.1.0P3 Patch 3 for HP-UX 10.20 Installation Guide</i>
DII.3010.HP1020.KernelP4.IG-1 27 August 1997	<i>DII COE Kernel 3.0.1.0P4 Patch 4 for HP-UX 10.20 Installation Guide</i>

2.2 Non-Government Documents

World Meteorological Organization, Geneva, Switzerland

WMO-306	<i>Manual On Codes</i>
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3 SYSTEM ENVIRONMENT

3.1 System Requirements

3.1.1 Hardware Requirements

The MDLLT segment is hosted on the Tactical Advanced Computer, TAC-3 (HP750/755)/TAC-4 (HP J210)

The following configurations are recommended:

RAM: 128 MB minimum, 192 MB optimum

Disk Space: 2GB

Swap Space: 300 MB

3.1.2 Operating System Requirements

HP-UX 10.20

3.1.3 Kernel Requirements

Kernel 3.0.1.0 with patches through P4

3.2 System and Site Preparations

3.2.1 System Configuration

The following software must be properly installed prior to loading the MDLLT segment:

- Appropriate operating system (as described above),
- Appropriate DII COE Kernel (as described above),
- DII COE Informix On-Line Dynamic Server segment (INFXOL), version 1.0.1.1/7.23
- DII COE DBAdm Account Group Segment version 1.1.0.0
- DII COE DBAdmR Segment version 1.1.0.2

3.2.2 Operating System Preparation

Information needed to prepare the operating system is found in these documents:

- DII COE V3.1 HP 10.20 Consolidated IP
- DII COE Kernel 3.0.1.0P1 Patch 1 for HP-UX 10.20 Installation Guide
- DII COE Kernel 3.0.1.0P2 Patch 2 for HP-UX 10.20 Installation Guide
- DII COE Kernel 3.0.1.0P3 Patch 3 for HP-UX 10.20 Installation Guide
- DII COE Kernel 3.0.1.0P4 Patch 4 for HP-UX 10.20 Installation Guide

3.2.3 Tape/Disk Preparation

The MDLLT segment software is delivered on a 4 mm DAT cartridge for the TAC-3/TAC-4 hardware environment.

4 INSTALLATION INSTRUCTIONS

MDLLT is a component of a DII COE database system. The following procedures describe the installation of the MDLLT software.

4.1 Installation on TAC-3/TAC-4 Systems

4.1.1 Media Booting Procedures for TAC-3/TAC-4 Systems

To prepare a tape for installation:

1. Insert the tape in the DAT drive.
2. Log in as sysadmin.
3. Select the System Administration SEGMENT INSTALLER utility under the **Software** pull-down menu.
4. Select the source and click the **Read Contents** button. The contents of the tape appear in the SELECT SOFTWARE TO INSTALL portion of the SEGMENT INSTALLER window.

4.2 Installation Procedures

(Note: Prior to segment installation, ensure that no existing MDLLT segment is installed on the target platform. If so, select the MDLLT segment in the CURRENTLY INSTALLED SEGMENTS section of the window. Select the **Deinstall** button to remove the MDLLT segment.)

To install the MDLLT software:

1. First ensure that the operating system (OS) and Kernel, with all patches, are installed. Instructions for installing the OS, Kernel, and patches are contained in the HP-UX documentation cited in Section 3.2.2.
2. Ensure that the Informix servers are **Up**. This can be checked through the dbadmin features.
3. Install the MDLLT segment from the installation tape.
 - Highlight **METOC LLT Obs Database Segment**.
 - Click the Install button.

4. The INSTALL STATUS dialog box will appear, which will give software loading status in a % format.
5. A Response dialog box will appear and query the amount of memory to be used for the database. Enter the appropriate value that is required for the target system.
6. An INSTALLER STATUS dialog box may appear. Enter the Informix password and click on the **OK** button. If the database is successfully created, a prompt will notify the installer. Select the **OK** button to clear the prompt.
7. Once the installation is complete, the SEGMENT INSTALLER window will appear. The **METOC LLT Obs Database Segment** will be displayed in the CURRENTLY INSTALLED SEGMENTS section of the window.

4.3 Installation of Upgrades

Installation of upgrades will generally follow the same procedures listed above.

4.4 Installation Verification

All successfully installed segments are listed in the CURRENTLY INSTALLED SEGMENTS portion of the INSTALLER window on TAC-3/TAC-4 systems.

4.5 Initializing the Software

This section is tailored out. No initialization of the software is required.

4.6 List of Changes and Enhancements

This section is tailored out. This is an initial installation of MDLLT. Discussion of MDLLT features may be found in the TESS/NC Database Design Document, cited in Section 2.

4.7 Important Considerations

This section is tailored out.

5 NOTES

5.1 Glossary of Acronyms

AESS	Allied Environmental Support System
API	Application Program Interface
APIRM	API Reference Manual
COE	Common Operating Environment
DII	Defense Information Infrastructure
GCCS	Global Command and Control System
IC4ISR	Integrated Command, Control, Communications, Computer, and Intelligence Surveillance Reconnaissance
IMOSS	Interim Mobile Oceanographic Support System
INFXOL	Informix On-Line Dynamic Server Segment
IP	Installation Procedures
JMCIS	Joint Maritime Command Information System
JMS	Joint METOC Segment
LLT	Latitude-Longitude-Time
MALLT	LLT Observation API Segment of the TESS(NC) METOC Database
MDLLT	LLT Observation Database Segment of the TESS(NC) METOC Database
METOC	Meteorology and Oceanography
MIDDS	Meteorological Integrated Data Display System
NITES	Navy Integrated Tactical Environmental Subsystem
OS	Operating System
PM	Programming Manual
PS	Performance Specification

SQL	Structured Query Language
SVD	Software Version Description
TAF	Terminal Aerodrome Forecast
TESS(NC)	Tactical Environmental Support System Next Century